

**CLAIMS**

What is claimed is:

- 1           1.       A notification mechanism, comprising:  
2           a plurality of completion queue handlers associated with a communication device, each  
3                   of the plurality of completion queue handlers associated with a process; and  
4           at least one completion queue associated with each one of the plurality of completion  
5                   queue handlers.
  
- 1           2.       The notification mechanism set forth in claim 1, wherein the process is  
2           associated with at least one processor.
  
- 1           3.       The notification mechanism set forth in claim 2, wherein each of the plurality of  
2           completion queue handlers generates an interrupt to the processor associated with the process.
  
- 1           4.       The notification mechanism set forth in claim 1, wherein a verb modifies an  
2           association of the at least one completion queue associated with at least one of the plurality of  
3           completion queue handlers.

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1           5.       The notification mechanism set forth in claim 1, wherein a verb creates the at  
2   least one completion queue associated with at least one of the plurality of completion queue  
3   handlers.

1           6.       The notification mechanism set forth in claim 1, wherein a verb returns a  
2   number of the plurality of completion queue handlers that are associated with the  
3   communication device.

1           7.       The notification mechanism set forth in claim 1, wherein each of the plurality  
2   of completion queue handlers are associated with at least one completion queue through a  
3   completion queue handler identifier.

1           8.       A network, comprising:  
2           a plurality of systems;  
3           a switch network that connects the plurality of systems for communication; and  
4           at least one of the plurality of systems, wherein the at least one of the plurality of  
5           systems comprises:  
6           a communication device having a plurality of completion queues; and

7 at least two completion handlers associated with the communication device, wherein  
8 each completion handler is associated with one of a plurality of processes and  
9 associated with at least one of the plurality of completion queues.

1 9. The network set forth in claim 8, wherein the plurality of completion queues are  
2 associated with a plurality of queues.

1 10. The network set forth in claim 8, wherein a first of at least two completion  
2 handlers is associated with one of the plurality of processes and a second of the at least two  
3 completion handlers is associated with another of plurality of processes.

1 11. The network set forth in claim 10, wherein the first of at least two completion  
2 handlers communicates a first interrupt to a first processor associated with one of the plurality of  
3 processes and the second of the at least two completion handlers communicates a second  
4 interrupt to a second processor associated with another of the plurality of processes.

1 12. The network set forth in claim 10, wherein a verb modifies the association of  
2 the first of at least two completion handlers with one of the plurality of processes.

1           13.     The network set forth in claim 8, wherein the at least two completion handlers  
2     reside in memory in the communication device.

1           14.     The network set forth in claim 8, wherein the at least two completion handlers  
2     reside in memory at least one of the plurality of systems that is external to the communication  
3     device.

1           15.     A method for providing notification to a plurality of processes, the method  
2     comprising the acts of:  
3             creating a plurality of completion queues on a communication device, each of the  
4             plurality of completion queues associated with at least one of a plurality of  
5             completion queue handlers that are associated with the communication device,  
6             wherein each of the plurality of completion queue handlers are associated with  
7             one of a plurality of processes;  
8             placing a completion queue entry on one of the plurality of completion queues;  
9             invoking one of the plurality of completion queue handlers associated with the one of  
10            the plurality of completion queues; and  
11            notifying the one of a plurality of processes associated with the one of a plurality of  
12            completion queue handlers.

1           16.     The method set forth in claim 15, executing a plurality of processes on a  
2     plurality of processors.

1           17.     The method set forth in claim 15, comprising issuing a verb to return a number  
2     of the plurality of completion queue handlers that are associated with the communication  
3     device.

1           18.     The method set forth in claim 15, wherein the notification comprising the one  
2     of a plurality of completion queue handlers sending an interrupt to one of a plurality of  
3     processors.

1           19.     The method set forth in claim 15, comprising issuing a verb to create one of the  
2     plurality of completion queues.

1           20.     The method set forth in claim 15, comprising modifying the at least one of the  
2     plurality of completion queues through the issuance of a verb to modify the association of at  
3     least one of the plurality of completion queues with at least one of a plurality of completion  
4     queues.

- 1           21.     The method set forth in claim 15, wherein the creation of the plurality of  
2     completion queues comprises defining each of the plurality of completion queues in a memory.